CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN DIEGO REGION

Staff Report for Item No. 10.a

Tentative Order No. R9-2003-0001

General Waste Discharge Requirements for Post-Closure Maintenance and Monitoring of Inactive Nonhazardous Waste Landfills within the San Diego Region

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1. INTRODUCTION

The General Waste Discharge Requirements (WDRs) in tentative Order No. R9-2003-0001 apply specifically to inactive, unlined municipal solid waste landfills requring adequate groundwater monitoring and site maintenance (see Table 1). The facilities listed under this tentative Order were closed, abandoned, or inactive prior to November 1984, the effective date for the current body of governing regulations for landfills (California Code of Regulations Title 27), and are therefore not subject to the closure requirements thereunder. However, these landfills are subject to the requirements for post-closure maintenance under CCR Title 27, §21090(b) and (c). The WDRs were developed using criteria previously established by the Regional Board, as well as additional practices of the Regional Board and other local agencies.

The tentative Order establishes WDRs containing revised/updated criteria for the proper management of inactive nonhazardous landfills.

Table 1. Identification of Dischargers

Inactive Landfill	**Discharger**	**Rationale for Identification**
Arizona/Balboa Landfill	City of San Diego	Owner
South Chollas Landfill	City of San Diego	Owner and operator.
Encinitas Lanfill	County of San Diego	Owner and operator
Gillespie Landfill	County of San Diego	Owner and operator
Hillsborough (aka Sweetwater 1)	County of San Diego	Owner and operator
Maxson Street Landfill	City of Oceanside	Owner and operator
Old MCRD/NTC Landfill	San Diego Unified Port District (Port)	Owner - took over ownership from U.S. Navy.
Bell Junior High (aka Sweetwater 2)	San Diego Unified School District	Current owner.
Bradley Park (aka Linda Vista Landfill)	City of San Marcos	Current owner.
Paradise Hills Park (aka Sweetwater 3)	City of San Diego	Current property owner
Golf Course Landfill	U.S. Navy	Owner and operator.
Search, Evade, Rescue, and Escape (SERE) Camp Landfill	U.S. Navy	Owner and operator.

2. BACKGROUND

A. Statewide Results from Solid Waste Assessment Test (SWAT) Program.

In 1984, the State Legislature passed a law requiring the testing of water and air media at all solid waste disposal sites (Chapter 15, Statutes of 1984). The law added Section 13273 to the California Water Code, and requires the SWRCB to rank all solid waste disposal sites into groups of 150 each, based upon their probable threat to water quality. The law requires that the dischargers (owners/operators) of each of the 150 sites in a given rank submit a water quality solid waste assessment test (SWAT) report. The Regional Boards statewide reviewed the reports to determine whether the sites were leaking and needed to take remedial action. The results are as follows:

The Regional Boards approved a total of 528 reports or exemption questionnaires (for sites with undetermined leak status) in all ranks and waived a total of 16 reports from sites already known to leak. These 544 sites were mainly from the lower ranks and therefore estimated to be the sites most likely to have leaked hazardous wastes into the waters of the State. Of these 544 sites,

- 392 sites (72%) were found to have leaked waste constituents from the WMU.
- 33 of the 544 sites (6%) were classified as leaking wastes at concentrations exceeding hazardous levels.
- 276 of the 544 sites (51%) were determined to be leaking waste constituents above other "regulatory levels".
- 83 of the 544 sites (15%) were determined to be leaking waste constituents above background levels, but below any applicable "regulatory levels".
- 76 of the 544 sites (14%) were not known to be leaking.
- 76 of the 544 sites (14%) are undetermined with regard to their leakage status, in many cases because background water quality cannot be determined.

The percentage of sites found through the SWAT program to be leaking outside the limits of the landfill is between 72% (if all 76 "undetermined" sites are actually not leaking) and 86% (if all 76 "undetermined" sites are actually leaking). Over half of the landfills closed longer than 30 years leaked in excess of "beneficial uses" criteria (SWRCB, 2003). Available SWAT Reports for facilities located in the San Diego Region are generally consistent with findings of the statewide SWAT program. The Regional Board staff concludes that the closed, abandoned, or inactive (CAI) landfills

that do not have SWAT results are also likely to be consistent with the results from the statewide SWAT program.

B. Essential Characteristics and Composition of Municipal Solid Wastes (MSW).

Leakage of waste constituents from MSW landfills into groundwater may occur through the migration of soluble waste constituents in "liquids" (AKA leachate) or from the migration of volatile waste constituents from the generation of landfill gas.

The ability of solid wastes to generate leachate is related to physical and chemical properties of the solid waste. According to Tchobanglous *et al*. (1993), the physical and chemical properties of MSW include:

1. Moisture content – different types of solid waste contain inherently different concentrations of moisture (e.g., agricultural wastes = 40 to 90% moisture, scrap metal 0 to 5% moisture by weight).

2. Field capacity – is the total amount of moisture that can be retained by a waste sample under the pull of gravity. The field capacity is of critical importance in determining the formation of leachate in landfills. Water in excess of field capacity will be released as leachate.

3. Proximate analysis – proximate analysis measures the combustible components of municipal solid waste (MSW) and includes the following parameters:

    a. Moisture content (loss of moisture when heated to 105^{o}C for 1 hour),

    b. Volatile combustible matter (additional weight loss on ignition at 950^{o}C in a covered crucible.

    c. Fixed carbon - combustible residue left after volatile matter is removed.

    d. Ash (weight of residue after combustion in an open crucible).

    e. Fusing point of ash – temperature at which the ash resulting from burning of the waste will for a solid (clinker) by fusion and agglomeration. Typical fusing temperatures for MSW range from 2000 to 2200 ^{o}F (1100 to 1200 ^{o}C).

Table 1 - Typical Results from Proximate Analysis of Modern MSW

Type of Waste	Moisture	Volatile Matter	Fixed Carbon	Non-combustible (ash)
Food Products	2 to 79	16 to 95	2 to 4	0.2 to 5
Paper Products	4 to 10	66 to 91	5 to 12	1 to 23
Plastics	0.2	87 to 99	<0.1 to 11	0.5 to 4
Textiles (rubber, leather)	1 to 10	66 to 84	5 to 18	6 to 9
Wood wastes	12 to 60	30 to 75	9 to 12	0.4 to 0.6
Glass/metals	2 to 5	N/A		96 to 99

Units = % by weight of material

4. Ultimate analysis – typically involves the determination of the percent carbon (C), hydrogen (H), oxygen (O), nitrogen (N), sulfur (S), and ash. Determination of halogens (chlorinated compounds) may also be included in this analysis. These results are often used to characterize the organic matter in MSW. They can also be used to assess the mix of waste materials that may be necessary to achieve a suitable C/N ratio for biological conversion processes.

Table 2 - Typical Results from Ultimate Analysis of Modern MSW

Type of Waste	Carbon	Hydrogen	Nitrogen	Sulfur	Ash
Food Products	60 to 73	6 to 12	0.4 to 3	0.1 to 0.4	0.2 to 5
Paper Products	33 to 59	6 to 9	<0.1 to 0.3	0.1 to 0.2	1 to 23
Plastics	45 to 87	6 to 14	<0.1 to 6	<0.1 to 0.1	0.3 to 10
Textiles (rubber, leather)	48 to 70	6 to 9	2 to 10	0.2 to 1.6	3 to 20
Wood wastes	46 to 50	6	0.1 to 3.4	<0.1 to 0.3	0.4 to 6
Glass/metals	0.5 to 5	0.1 to 0.6	<0.1	N/A	90 to 98

Units = % by weight of material

C. Composition of Landfill Gas and Maturation of Municipal Solid Wastes (MSW).

Landfill gases are composed of a number of gases that are present in large amounts (the principal gases) and a number of gases present in very small amounts (trace gases).

The principal gases are produced from the decomposition of the organic fraction of MSW. These gases include ammonia (NH_3), carbon dioxide (CO_2), carbon monoxide (CO), hydrogen (H_2), hydrogen sulfide (H_2S), methane (CH_4), nitrogen (N_2), and oxygen (O_2). The typical percent distribution of gases found in MSW landfills is reported below:

Table 3- Composition of Typical Landfill Gas

Constituent/Gas	**Percent (dry volume basis)**
Methane	45 to 60
Carbon dioxide	40 to 60
Nitrogen	2 to 5
Oxygen	0.1 to 1
Sulfides, disulfides, mercaptans	0 to 1
Ammonia	0.1 to 1
Hydrogen	0 to 0.2
Carbon monoxide	0 to 0.2
Trace constituents	0.01 to 0.6

Methane and carbon dioxide are the principal gases produced from the anaerobic decomposition of biodegradable organic waste components in MSW. The presence of carbon dioxide can affect the pH of leachate produced within the landfill.

According to Tchobanoglous *et al.* (1993), the generation of landfill gas containing decomposable wastes can be expected to pass through several phases, including:

1. Initial adjustment (Phase 1) – organic and biodegradable components undergo microbial decomposition under localized aerobic (using oxygen) or anerobic (absence of oxygen) conditions.

2. Transition Phase (Phase 2) – oxygen is depleted and anaerobic conditions begin to develop within large areas of the landfill. Nitrate and sulfate are reduced to nitrogen gas and hydrogen sulfide gas. The oxidation- reduction potential of the values drop to –150 to –300 millivolts. The microbial community begins to convert complex organic material to organic acieds and other intermediate products. If any leachate is formed the pH begins to drop due to the precense of organic acids and the presence of CO_2 in the landfill.

3. Acid Phase (Phase 3) – the microbial activity produces significant amounts of organic acids and lesser amounts of hydrogen gas. Acidogenesis proceeds as microbial community converts the decomposition products into lower molecular mass compounds typified by acetic acid, and small concentrations of fulvic and other more complex organic acids. Carbon dioxide is the the principal gas generated during this phase. The leachate (if present) may drop to a pH of 5 or lower because of the presence of organic acids and elevated concentrations of CO_2. In the presence of leachate with a low pH, a number of inorganic constituents, principally heavy metals, will go into solution (leachate).

4. Methane Fermentation Phase (Phase 4) – a second group of microorganisms convert the acetic acid and hydrogen gas to methane (CH_4) and CO_2. The pH of the leachate begins to rise (*e.g.*, to 6.8 to 8) as the acids and hydrogen gas is converted to CH_4 and CO_2. The soluble concentration of heavy metals in the leachate is reduced with the rise in pH.

5. Maturation Phase (Phase 5) – occurs after the readily available biodegradable organic material has been converted to CH_4 and CO_2. The rate of landfill gas generation decreases significantly during this phase because most of the available nutrients have been removed with the leachate during the previous phases and the remaining substrates in the landfill are slowly biodegradable. Principal landfill gases are CH_4 and CO_2 though small amounts of nitrogen and oxygen may also be present. During this phase the landfill leachate will contain humic and fulvic acids which are difficult to process further through biological reactions.

D. Effects of Waste Maturation at Pre-1984 Municipal Solid Wastes (MSW).

The characteristics of MSW are significantly modified as a result of burial in a landfill and the passage of time. Most MSW landfills are expected to contain wastes with general characteristics and progress through the phases of maturation as discussed above. These facilities are expected to commonly contain significant concentrations of moisture and organic (decomposable) materials that are essential precursors to processes normally associated with the formation of leachate and landfill gas generation as described above [from Tchobanoglous *et al.* (1993)]. In addition, the exact quantities/volumes of hazardous materials that may have been discharged at these pre-1984 facilities is either unknown or not known with certainty.

As a result, MSW landfills containing significant volumes of decomposable materials may be expected to generate significant volumes of leachate and landfill gas. Most MSW landfills that became inactive or closed prior to 1984 were not equipped with leachate collection systems and many may not have operational landfill gas collection systems. Under such conditions, the processes of waste degradation may be expected to result in a degradation of water quality and create a condition of pollution or nuisance in water resources. These observations are consistent with the observations made during the

Statewide SWAT Program and the experiences of the Regional Board staff in regulating MSW landfills in the San Diego Region.

3. EVALUATION OF THREATS TO WATER QUALITY FROM SOLID WASTE UNITS CONTAINING SIGNIFICANT VOLUMES OF DECOMPOSABLE WASTES

Migration of waste constituents from unlined landfills that were closed or became inactive prior to 1984 and containing significant quantities of decomposable waste may result in significant impacts to water quality. The maturation MSW results in site-specific conditions and/or degradation products that solubilize waste and mobilize of waste constituents. The migration of landfill leachate, degradation products, and waste constituents into groundwater or surface water resources may be a long-term process that is not easily corrected. Releases of degradation products and/or waste constituents from unlined, pre-1984 landfills may result in the long-term loss of designated beneficial uses of water resources. As a result of the considerations described above and the other information discussed in this Staff Report, the Regional Board staff recommends that the Regional Board continue to assign pre-1984, unlined MSW landfills with threat to water quality and complexity and complexity (TTWQ/CPLX) ranking of "1-B."

The TTWQ/CPLX ranking of "1-B" is based upon the following considerations as outlined in CCR Title 23, Division 3, Section 2200 *et seq.*:

TTWQ: Category "1" – Those discharges of waste that could case the long-term loss of a designated beneficial use of the receiving water. Examples of long-term loss of a beneficial use include the loss of a drinking water supply, ….

CPLX: Category "B" - …, or any Class II or Class III waste management units.

The State Water Resources Control Board has recently revised the WDR fee structure for discharges of wastes to land in CCR Title 23, Division 3, Section 2200 (see "WATER NEWS" on the web at www.swrcb.ca.gov) . For discharges included in the Land Disposal Program, a TTWQ/CPLX ranking of "1-B" results in an annual fee of $16,875.

4. CLASSIFICATION OF SOLID WASTES AND DISPOSAL UNITS

The California Water Code gives the California Regional Water Quality Control Boards authority to protect the quality of water resources within their Regions. Discharges of nonhazardous wastes to land are regulated under CCR Title 27. This body of regulations prescribes the criteria used by the Regional Boards to classify wastes based upon its threat to water quality and a site based upon the level of protection afforded to water quality. The threat to water quality posed by a particular disposal activity depends upon a site-specific combination of waste and site characteristics.

Waste Classification. California Code of Regulations (CCR), Title 27 classifies wastes as hazardous, designated, nonhazardous solid waste, or inert waste. Municipal solid wastes are classified as nonhazardous wastes per the criteria listed in CCR Title 27, §20220(a), and typically contains putrescible and nonputrescible solid, semi-solid, and liquid wastes.

A nonhazardous waste is defined as: "all putrescible and nonputrescible solid, semi-solid and liquid wastes, including garbage, trash, refuse, paper, rubbish, ashes, industrial wastes, demolition and construction wastes, abandoned vehicles and parts thereof, discarded home and industrial appliances, manure, vegetable or animal solid and semi-solid wastes and other discarded waste (whether of solid or semi-solid consistency); provided that such wastes do not contain wastes which must be managed as hazardous wastes, or wastes which contain soluble pollutants in concentrations which exceed applicable water quality objectives, or could cause degradation of waters of the state (i.e., designated waste)." [CCR Title 27 §20220(a)].

Waste Management Unit Classification. CCR Title 27 contains criteria whereby waste management units ("*WMUs*") are classified according to their ability to protect surface and ground water resources by effectively containing wastes discharged into the WMU. Nonhazardous municipal solid wastes (MSWs) are disposed of in "Class III WMUs".

5. GENERAL PERMITTING

The Regional Board staff believes that landfills, which became inactive, closed or abandoned prior to November 1984, are more appropriately regulated under General Waste Discharge Requirements than Individual Waste Discharge Requirements because:

a) Those past discharges were generally produced by similar waste management operations conducted within the San Diego Region.

b) Those past discharges involved similar waste streams collected within the San Diego Region.

c) Those past discharges were subject to similar treatment standards within the San Diego Region.

d) Most pre-1984 MSW landfills have similar types of monitoring and maintenance requirements for the protection of water quality and the prevention of nuisance conditions.

On April 9, 1997, the California Regional Water Quality Control Board, San Diego Region (Regional Board) adopted Order No. 97-11: "*General Waste Discharge Requirements for Post-Closure Maintenance of Inactive Nonhazardous Waste Landfills within the San Diego Region.*" These WDRs established post-closure maintenance, and monitoring and reporting requirements in accordance with CCR Title 27. On June 14, 2000, the Regional Board adopted Addendum No. 1 to Order No. 97-11. Addendum No. 1 updated general

maintenance requirements and identified additional WMUs that would more appropriately be regulated under general waste discharge requirements than individual waste discharge requirements.

General WDRs allow the Regional Board to more effectively and efficiently regulate the post-closure maintenance of inactive landfills within the San Diego Region. General WDRs also reduce the amount of staff time extended on preparing and considering individual waste discharge requirements for each project. The collection of a filing fee will help cover the cost of administering the General WDRs. Tentative Order R9-2003-0001 will supercede any current waste discharge requirements, including Order No. 97-11 and addenda thereto, for the landfills listed on Attachment No. 1 of the tentative Order.

6. DISCHARGE SPECIFICATIONS

Tentative Order No R9-2003-0001 revises waste discharge requirements for unlined, nonhazardous waste landfills which were inactive, closed, or abandoned before November, 1984. Most of the facilities listed under this tentative order overlie ground water basins designated as suitable for use as municipal and domestic public water supplies. Applicable numeric and narrative water quality objectives for groundwater resources are promulgated in Chapter 3 of the Water Quality Control Plan for the San Diego Region. Additional State water quality criteria for beneficial uses of ground water resources as a public drinking water supply are promulgated in CCR Title 22, Division 4, Chapter 15, Article 4, §64431 (Primary MCLs for inorganic chemicals), §64444 (Primary MCLs for organic chemicals), §64449 (Secondary MCLs), and Chapter 17.5, Article 1, §64672.3 (copper and lead action levels).

Some inactive landfills are located in proximity to surface waters that support beneficial uses including recreation (REC1 and REC2), and support fish and wildlife (COLD, WARM, WILD, and RARE). Further, a number of impaired water bodies have been identified in the San Diego Region and listed on the statewide 303-d list. Updated conditions and controls have been added to tentative Order No. R9-2003-0001 to help ensure that the dischargers will implement adequate best management practices (BMPs) for storm water conveyance and the control of erosion, to limit the discharges of sediment, and preclude the discharge of wastes from the site into impaired water bodies. Applicable numeric and narrative water quality objectives for surface water resources are promulgated in Chapter 3 of the Water Quality Control Plan for the San Diego Region. Additional State and Federal water quality criteria for the protection of beneficial uses of surface water resources are promulgated by the U.S. Environmental Protection Agency as the California Toxics Rule (CTR) as implemented by State Water Resources Control Board Resolution Nos. 2000-015 and 2000-030.

7. GENERAL MAINTENANCE REQUIREMENTS

Tentative Order R9-2003-0001 requires the dischargers to perform regular maintenance of the landfill cover systems throughout the post-closure maintenance period. The post-closure

maintenance period continues until the Regional Board determines that the remaining wastes in all WMUs no longer pose a threat to water quality.

Interim landfill covers must be designed to minimize infiltration of liquids through wastes. (California Code of Regulations (CCR) Title 27, Chapter 3, Subchapter 4, Article 2, Section 20705). In addition, interim landfill covers must be maintained in order to resist erosion under and remain functional during anticipated precipitation events. In order to monitor the performance of interim cover systems at landfills that were closed, abandoned or inactive prior to 1984, dischargers are required to periodically perform a technical assessment to evaluate the effectiveness of the interim landfill interim cover system. The thickness of the interim landfill cover system (including the top deck, intermediate benches, and sideslopes) shall be measured at least every five years.

8. EROSION CONTROLS AND STORMWATER PROTECTION

WMUs must be adequately protected against washout, erosion of wastes, or the erosion of cover materials. The WMUs must also have drainage systems designed to handle the rainfall from a 100- year, 24-hour storm event.

A variety of approaches may be taken to implement effective Best Management Practices (BMPs) for the long-term control of surface water runoff and erosion of the landfill cover. Implementation of adequate BMPs for effective storm water conveyance and erosion control are essential for the protection of surface water resources and the restoration of impaired water bodies located within the San Diego Region. Effective BMPs are best designed and implemented on a site-specific basis.

Annually, prior to the rainy season, but no later than October 31, the discharger for each facility shall implement any necessary erosion control measures, and shall complete any necessary construction, maintenance, or repairs of precipitation and drainage control facilities to prevent erosion, ponding, flooding, or to prevent surface drainage from contacting or percolating through wastes. This requirement does not preclude the dischargers from performing regular site maintenance and repairs necessitated by changing site conditions throughout the year.

All WMUs regulated under this tentative Order shall comply with the storm water and erosion control requirements of Order 97-03-DWQ, National Pollutant Discharge Elimination System (NPDES) General Permit No. CAS000001, "Waste Discharge Requirements for Discharges of Storm Water Associated with Industrial Activities Excluding Construction Activities."

9. TEMPORARY SOIL STOCKPILE MANAGEMENT

In complying with the requirements to perform regular maintenance of the landfill cover system throughout the post-closure maintenance period, the discharger may find it necessary to create temporary stockpiles of soil prior to conducting grading operations. Soil stockpiles

shall be placed in designated areas that are clearly identified at the site, and labeled on figures in semi-annual reports submitted to the Regional Board.

Any soil imported to an inactive landfill site for general maintenance must be stockpiled on a temporary basis only. The source(s), including name and address of the supplier, address of the source location, and the volume of soil provided from that source, of all imported materials shall be provided to the Regional Board. Stockpiles must be regularly inspected and maintained to ensure the discharge of soils do not create a condition of pollution or nuisance.

Tentative Order R9-2003-0001 establishes waste discharge requirements for management of temporary soil stockpiles at inactive landfills. Effective BMPs shall be established to prevent surface water run-on and the erosion and transport of soils by surface water runoff. To help control erosion by storm water, fugitive dust and other nuisances, stockpiles shall be overlain by plastic sheeting not less than 10 mils thick, or implement a BMP measure that affords equivalent protection. All soil stockpiles shall be located greater than 100 feet away from any surface water identified in the Basin Plan, and must be protected against 100-year peak stream flows as defined by the local County flood control agency.

10. ENROLLMENT PROCEDURES

The enrollment procedure for a facility into the WDR program includes the submittal of an application, a Report of Waste Discharge (RWD) and supporting information, and a filing fee. In order to enroll for coverage under tentative Order R9-2003-0001, the discharger submits the a complete an RWD, including the following minimum information:

a. Form 200, Application for Facility Permit/Waste Discharge, filled out in accordance with the instructions, and a filing fee (currently $16,875) payable to the State Water Resources Control Board.

   The enrollment fee is based upon the assigned threat to water quality (TTWQ) and complexity rating (CPLX) established pursuant to criteria in CCR Title 23, §2200. The Regional Board staff has assigned a TTWQ/CPLX rating of "I-B" for dischargers covered under tentative Order No. R9-2003-0001. This rating is appropriate for discharges of waste requiring implementation of groundwater monitoring and BMPs because of the potential impact to the quality of waters of the State. Under the current fee schedule in CCR Title 23 §2200, a TTWQ/CPLX rating of I-B requires the discharger submit a filing fee (currently at $16,875) payable to the State Water Resources Control Board (SWRCB).

b. Copies of all analytical results, associated laboratory data sheets, including QA/QC data and chain of custody documents.

c. A discussion of the landfill and waste characteristics including:

i. Identification of the period during which waste was disposed of at the site;

ii. Description of landfill disposal methods, operation and maintenance activities;

iii. Description of types and quantities of waste disposed of;

iv. Identification of the total volume of waste disposed of at the site;

v. Any closure or post-closure activities conducted at the landfill subsequent to ceasing operation; and

vi. Present and future land use of the inactive landfill.

d. Documentation of how the discharger will comply with all applicable requirements of Order and Monitoring and Reporting Program No. R9-2003-0001.

e. A topographical scale map showing the location, users and uses of all wells located within one mile of the inactive landfill.

f. The discharger shall file a Notice of Intent (NOI) and application fee for coverage under State Board Order No. 97-03-DWQ, National Pollutant Discharge Elimination System (NPDES) General Permit No. CAS000001, "Waste Discharge Requirements for Discharges of Storm Water Associated with Industrial Activities Excluding Construction Activities."

g. A Storm Water Pollution Prevention Plan (SWPPP) or an updated version thereof, as required by Order 97-03-DWQ.

h. Any other information pertinent to the protection of water quality or public health and prevention of nuisance.

Inactive landfills may also be enrolled in this tentative Order by the Regional Board under the statutory authority of the California Water Code §13263(d). In either case, the discharger will receive written notification from the Regional Board stating whether or not it is appropriate to regulate the inactive landfill in question under these general WDRs, or if individual WDRs are required.

11. REPORTING REQUIREMENTS

The discharger is required to comply with the following minimum reporting requirements:

a. The discharger shall file a new Report of Waste Discharge **at least 120 days** prior to the following:

1) Significant change in post-closure maintenance activities that would significantly later existing drainage patterns and slope configurations, or pose a potential threat to the integrity of the site;

2) Change in land use other than as described in the finds of tentative Order No. R9-2003-0001;

3) Significant change in disposal area, e.g., excavation and relocation of waste on site; or

4) Any planned change in the regulated facility or activity which results in noncompliance with this tentative Order.

b. The discharger shall submit a workplan **at least 30 days** prior to any maintenance activities that could alter existing surface drainage patterns or change existing slope configurations. These activities may include, but not be limited to, significant grading activities, the importation of fill material, the design and installation of soil borings, ground water monitoring wells and other devices for site investigation purposes.

c. **Within six months** of adoption of this Order, or enrollment therein, the discharger shall submit to the Regional Board a current or updated cover maintenance plan. The cover maintenance plan shall include a description of how the discharger plans to comply with the general maintenance requirements specified in CCR Title 27 §21090(c)(1), §21090(c)(3), §21090(c)(4), and §21090(c)(5), as well as the conditions listed in **Post-Closure Maintenance Specifications C.1.a-h** of tentative Order No. R9-2003-0001.

d. The discharger shall provide written notification **at least 2 working days** prior to any maintenance activities that are minor and/or routine in nature, do not add a significant amount of water, do not inhibit drainage, have limited potential for impacts to beneficial uses of water, and will not interfere with future routine maintenance. These activities may include, but not be limited to:

1) Routine maintenance grading and dust control;

2) Landscaping with minimal/no water application;

3) Gas surveys with temporary probes; or

4) Replacement/removal of gas collection wells.

e. Furnish the Regional Board, within a reasonable time, any information which the Regional Board may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Order. The discharger shall also furnish,

upon request by the Regional Board Executive Officer, copies of records required to be kept under this Order.

f. The Regional Board shall be notified immediately of any slope failure occurring in a waste management unit. The discharger shall promptly repair any failure that threatens the integrity of the containment systems. A written summary of actions that were implemented to correct any slope failures shall be prepared and submitted with the next monitoring report.

g. The Regional Board shall be notified immediately by telephone of the discovery of any previously unreported seepage from the disposal area. A written report shall be filed with the Regional Board within **seven days** containing at least the following information:

1) A map showing the location(s) of the seepage;

2) An estimate of the flow rate;

3) A description of the nature of the discharge (*e.g.*, all pertinent observations and analyses); and

4) Corrective measures approved (or proposed for consideration) by the Regional Board.

The discharger shall notify the Regional Board, in writing, at least **30 days** in advance of any proposed transfer of this Order's responsibility and coverage between the current owner and new owner for construction, operation, closure, or post-closure maintenance of a landfill. This agreement shall include an acknowledgement that the existing owner is liable for violations up to the transfer date and that the new owner is liable from the transfer date on. The agreement shall include an acknowledgement that the new owners shall accept responsibility for compliance with this Order that includes the post-closure maintenance of the landfill.

The discharger is required to report any noncompliance, which may endanger human health or the environment. Any such information shall be provided orally to the Regional Board **within 24 hours** from the time the owner becomes aware of the circumstances. A written submission shall also be provided **within five days** of the time the owner becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected; the anticipated time it is expected to continue, and steps taken or planned to reduce, eliminate, or prevent recurrence of the noncompliance. The Regional Board, or an authorized representative, may waive the written report on a case-by-case basis, if the oral report has been received within 24-hours.

At any point in time, failure to comply with the requirements of tentative Order No. R9-2003-0001 will result in the Regional Board staff developing enforcement actions against the discharger in accordance with the SWRCB's Enforcement Policy (2002).

12. COMPLIANCE WITH CEQA

Inactive landfills are existing facilities and, as such, regulatory actions related to inactive landfills are exempt from the provisions of the California Environmental Quality Act in accordance with the California Code of Regulations, Title 14, Chapter 3, Article 19, §15301.

13. FINANCIAL ASSURANCES

General Order 97-11 (and addenda thereto) does not include provisions for dischargers to obtain and maintain acceptable assurances of financial responsibility. The Regional Board staff intends to correct that deficiency by developing and addendum to Order 97-11 for consideration by the Regional Board as a future agenda item.

Pre-1984 MSW landfills are existing reservoirs of solid wastes, waste constituents, and degradation products derived from those wastes. A release of wastes, waste constituents or degradation products derived therefrom may create a condition of pollution or nuisance as defined under Water Section 13050. In order to minimize that threat, it is necessary to implement regular activities associated with post-closure maintenance activities and monitoring. In the event of a release of wastes, waste constituents or degradation products from the waste management unit; implementation of corrective actions may also be necessary to protect the quality of the waters of the State. It is not the intent of the State to take on financial responsibility for implementing post-closure maintenance, monitoring, or corrective actions at landfills that either closed or became inactive prior to 1984. The financial responsibility for implementing the necessary post-closure maintenance, monitoring, and corrective actions are the responsibility of the dischargers (owners) of pre-1984 MSW landfills.

The State Regulatory requirements for dischargers to obtain and maintain assurances of financial responsibility have been part of state regulatory requirements covering landfills for some time [also see CCR Title 23, Chapter 15, § 2550(b)]. Examples of current State requirements for dischargers to provide Financial Assurances, specifically naming the Regional Board as the beneficiary, may be found in CCR Title 27, §20380(a), §22212(a) and §22222. Tentative Order R9-2003-0001 contains a requirement for dischargers to obtain and maintain assurances of financial responsibility for the enrolled facilities.

14. STAFF RECOMMENDATIONS

The Regional Board staff recommends adoption of tentative Order No. R9-2003-0001 and tentative Monitoring and Reporting Program R9-2003-0001.

REFERENCES CITED

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